SONDEROPHYCUS AND THE TYPE SPECIMEN OF *PEYSSONNELIA AUSTRALIS* (CRYPTONEMIALES, RHODOPHYTA)

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Summary

WOMERSLEY, H. B. S. & SINKORA, D. (1981) *Sonderophycus* and the type specimen of *Peyssonnelia australis Sonder* (Cryptonemiales, Rhodophyta). *Trans. R. Soc. S. Aust.* **105**(2), 85-87, 12 June, 1981.

The type specimen of *Peyssonnelia australis* Sonder in MEL is a *Peyssonnelia* and is distinct from the taxon known as *Sonderophycus australis* (Sonder) Denizot. The latter, which is based on *P. australis Sonder*, is distinct generically from *Peyssonnelia* and is therefore re-described as *Sonderopelta coriacea* gen. et sp. nov. *P. australis* Sonder is an earlier name for *P. gunniana* J. Agardh but a synonym of *P. capensis* Montagne.

Introduction

Peyssonnelia australis Sonder (1953, p. 685) has been recently referred to as *Sonderophycus australis* (Sonder) Denizot (1968, pp. 260, 307). Earlier it had been referred to as *Ethelia australis* (Sonder) Weber van Bosse (1921, p. 300), though Weber van Bosse's record "Archipel Indien" seems likely to apply to a different taxon. The description of Denizot was probably based on material such as that illustrated by Harvey (1859, pl. 81), and this is indeed a distinctive southern Australian species.

However, the type specimen of *P. australis* Sonder in MEL (573182) is not the plant now known as *Sonderophycus australis* but is *Peyssonnelia gunniana* J. Agardh (1876, p. 387), which Denizot (1968, p. 123) places as a synonym of the South African *P. capensis* Montagne (1847, p. 177).

The type specimen of *P. australis* in MEL, from Holdfast Bay, South Australia (*F. Mueller*), includes a small sheet with Sonder's handwritten notes on both sides; several phrases are repeated in the type description. This number, with four pieces of thallus in an envelope, is regarded as the holotype. There is a further specimen in MEL (573183) labelled by Ferdinand Mueller and which is probably isotype material. Sonder later also included some *Sonderophycus* specimens under his *P. australis*.

P. australis Areschoug (1854, p. 352) from "sinu Port Adelaide" (specimens in S) is the same as Sonder's type; Areschoug's name was apparently indepedent of Sonder's .

It seems likely that all references to *Sonderophycus* or its synonyms apply to this genus as understood by Denizot, apart from Sonder's original description. The misinterpretation of Sonder's type probably dates from Harvey's 1859 description and his Alg. Aust. Exsicc. 328E from Port Phillip Heads, Vic. (also Harvey, Trav. set 434 from the same locality).

Since the generic name *Sonderophycus* is based on *Peyssonnelia australis* Sonder, it must be relegated to synonymy of the latter. No alternative generic name or specific epithet exists for *Sonderophycus*, which dates only from 1968 and was imperfectly presented (Denizot did not see and failed to cite the full date for Sonder's publication, viz. 18. . for 1853, and the French discussion and citation of basionym are given on p. 260 with the latin diagnosis on p. 307).

Accordingly this distinctive taxon is here described as a new genus and species.

Sonderopelta coriacea gen. and sp. nov.

Peyssonnelia australis sensu Harvey 1859: pl. 81.

NON *P. australis* Sonder 1853: 685.

Ethelia australis? (Sonder) W.v. Bosse 1921: 300.

Sonderophycus australis (Sonder) Denizot 1968: 260, 307.

Sonderopelta gen. nov.

Thallus uncalcified, with a short, thick and felty stipe of entangled rhizoids and an extensive relatively thick and cartilaginous lamina extending eccentrically from the stipe position with concentric growth zones, variously lobed and lacerate; lamina in section composed of radiating filaments of cells of similar size, spreading both to the underside of the thallus with frequent terminal cells of the filaments

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Fig. 1. The holotype specimen of *Sonderopelta coriacea*.

producing attachment rhizoids, and to the upper (light-facing) surface with the filaments becoming erect and short celled to form the cortex. Reproduction unknown.

Thallus non calcareus, stipite rhizoideorum brevi et crasso et lamina extensiva crassa cartilaginea a positione stipitis zonis concentricis auctus eccentrice extensa, lobata vel lacera; lamina in sectione e filamentis radiatis cellularum amplitudinis similaris composita, filamenta utrinque extendentia, ad paginam inferiorem cellulis frequentibus terminalibus filamentorum haptera efferentibus, ad paginam superiorem filamentibus erecteseentibus et cellularibus brevis cortex formantibus. Reproductio incognita.

Type species. *S. coriacea* sp. nov.

S. coriacea sp. nov.

Thallus (Fig. 1) eccentrically peltate, spreading from a short (to 2 cm long and 1½ cm broad), fibrous and often divided stipe, usually growing under overhangs in low light intensity; lamina cartilaginous, ½-1 (-1½) mm thick, radiating eccentrically from the stipe, often deeply divided or laciniate with lobes to 20(-25) cm long and to 15 cm broad, margin smooth, convex to rounded, dark red-brown above (side to light), grey and fibrous (from septate rhizoids) below where in larger plants this side is ½-2 cm from the rock substrate.

Thallus eccentrice peltatus, ab stipe (ad 2 cm longo et 1½ cm diametro) breve saepe diviso patens, plerumque sub petra imminenti in luce demissa vivens; lamina cartilaginea, ½-1 (-1½) mm crassa, a stipe eccentrice radians, saepe divisa profunda vel laciniata lobis ad 20(-25) cm longis et ad 15 cm latis, margo laevis, convex ad circularis, pagina ad lucem superior sanguinea, pagina inferior cinerea fibrosa (per rhizoidea septata) in plantis magnioribus ½-2 cm a substrato.

Type locality: Pondalowie Bay, Yorke Peninsula, S. Aust. (2-3 m deep in shade, 14.ii.1981; *S. M. Clarke*).

Type: ADU, A52035 (Fig. 1). Isotypes to be distributed as No. 214 in "Marine Algae of southern Australia".

Sonderopelta is named to commemorate Otto Wilhelm Sonder (1812–1881), combined with the peltate form of the well-developed thallus.

Distribution: From the Isles of St Francis, S. Aust. to Waratah Bay, Vic. and around Tasmania, mainly on rough-water coasts in depths of 1-25 m, usually in heavy shade.

Sonderopelta differs from *Peyssonnelia* in thallus structure, having longitudinal filaments which diverge to both upper and lower surfaces, whereas *Peyssonnelia* has a distinct basal hypothallial layer producing filaments above and attachment rhizoids below. *Ethelia*, in which *Sonderopelta* was placed with some doubt by Weber van Bosse, differs in having upwardly and downwardly directed filaments produced from a central, apparently limited, layer of distinctly larger filaments; it also differs in being fully adherent to the substrate but without producing attachment rhizoids.

Peyssonelia australis Sonder

Peyssonnelia australis is a common subtidal alga on southern Australian coasts. *P. gunniana* J. Agardh (1876, p. 387), based on a collection of Harvey (327J) from Georgetown, Tasmania (type in Herb. Agardh, LD, 27698) which had been earlier referred to the European *P. rubra* Harvey, becomes a synonym of *P. australis*, and *P. coccinea* J. Agardh (1876, p. 385) from Western Australia (probably near Bunbury) (type in Herb. Agardh, LD, 27650) is probably also synonymous.

Denizot (1968, p. 123) placed *P. gunniana* as a synonym of *P. capensis Montagne* (1847, p. 177) from South Africa (type in PC?) but without detailed comments on their identity. Denizot regarded the presence of internal calcified granules as well as hypobasal calcification as characteristic of *P. capensis* (as well as other features such as the septate rhizoids), and Australian specimens appear to be specifically identical with ones studied from South Africa (e.g. Isaac 307 from Terguiet, near Mossel Bay, 13.x.1954; ADU, A40825).

Hence *P. australis* Sonder should be regarded as a synonym (along with *P. gunniana* J. Agardh) of *P. capensis* Montagne.

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PARTIAL ACQUISITION OF PIGMENTATION IN AN ADULT, ALBINO, AUSTRALIAN LEPTODACTYLID FROG (LIMNODYNASTES DUMERILI PETERS)

BY MICHAEL J. TYLER AND MARGARET DAVIES

Summary

Although there are sporadic reports of the discovery of albino frogs, the individuals involved generally are stable in their lack of pigment. Exceptions are the observations of European Rana species in which the tadpoles derived from albino ova acquired normal pigmentation gradually over a period of approximately two weeks. We have not located the description of pigmentation developing in albino frogs in later stages in their ontogeny.